

Title *MULTINOZZLE INK JET HEAD*

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Abstract

PURPOSE: To provide smooth bubble discharge, excellent ink atomization starting property and prevent deterioration of length extension yield of nozzle plates or charging electrodes without fouling the charging electrodes by constituting a plurality of mutually separated ink liquid chambers on a nozzle substrate and installing a valvular means which controls the outflow and inflow of the ink in each ink liquid chamber.

CONSTITUTION: A plurality of nozzle plates 4 are bonded to a nozzle substrate 3, forming separate ink liquid chambers 6. The problem of bubble generation in the ink liquid chamber is resolved by providing independent ink liquid chambers 6. The ink supply is independently controlled by switching ON/OFF operation of a solenoid valve 8 mounted in a plurality of ink inflow channels 7 in a manifold 2. Further the ink is caused to flow out through a solenoid valve 9 after passing through the ink liquid chamber 6. As a result, irregular cutting of the ink droplets from each nozzle due to bubbles is eliminated, and also no fouling of charging electrodes by the splashing of ink droplets which is caused by the bubbles or no ink leak occurs when the ink supply is controlled by the switching ON/OFF operation. Thus the nozzle plates can be easily manufactured and materials be used without any restrictions with improved production yield when the extended length product is manufactured.

Classifications

Int. class. *B41J-003/04*

JAPIO class. codes *29.4 (PRECISION INSTRUMENTS--Business Machines)*

Fixed Keyword *R105 (INFORMATION PROCESSING--Ink Jet Printers)*

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